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ABSTRACT

Information is provided on technological and social trends as background for a workshop designed to heighten the consciousness of workers in community information systems. Initially, the basic terminology is considered in its implications for an integrated perspective of community information systems, with particular attention given to the meaning of isolation within a community context. The dynamics of information processes and their relationships to societal groupings are also discussed. Secondly, new technologies such as Viewdata, BOM (Brainstorming on Microfiche), and computer conferencing are considered as they impact on community information systems, and questions posed by mainstream media and databases and their alternatives are discussed in respect to the national or international linkages they may provide. In the final section, a number of questions are asked dealing with the implications of community information systems for both individuals and societies as a whole. (Author/RAA)

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COMMUNITY INFORMATION SYSTEMS.

Pre-reading for a workshop on
COMMUNITY INFORMATION SYSTEMS

held at the first National Community Education Conference
May 16, 1981.
Southport, Queensland, AUSTRALIA.

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ABSTRACT

"Community Information Systems"
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Background information for
a workshop presented at the 1st National Community Education Conference, May 16, 1981. Southport, Queensland, AUSTRALIA.

This workshop is designed to heighten the consciousness of people to working in the area of community information systems to a number of trends (both of a technological and social nature).

Initially consideration is given to the meaning of the terms "community", "information", and "systems". In considering the implications of these terms in isolation it is hoped that participants will develop a more integrated perspective on community information systems. Particular attention is given to the meaning of isolation in a community context. Consideration is also given to the processes of information development, transmission, and reception and the role different societal groups play in each of these processes. Systems are considered in terms of inputs, processes, outputs, and environmental elements. Particular consideration is given to the issue of how a system is effected by positive and negative environments.

In the next section a number of new technologies are considered and how these could impact on community information systems. Specific consideration is given to such technologies as viewdata, BOM, and computer conferencing. Consideration is also given to the question of how community information systems could more effectively use the "mainstream" media. An outline is given of how community information systems can link in with national and international data bases. Consideration is also given to the question of how community information systems can develop alternatives to mainstream media and data bases.

In the last section of the paper a number of questions are asked dealing with the implications of community information systems for both individuals and society as a whole. It is to be hoped that these questions will be considered further in the workshop.

The emphasis in this workshop will be on participation. This briefing paper is designed to raise some of the issues and questions which I hope will be of interest to participants in the workshop.

Firstly, I think it is worth considering the components of community information systems. Specifically:

- What is a community?
- What is information?
- What is a system?

WHAT IS A COMMUNITY?

Often a community is considered to be made up of people who are close. The closeness may be of a physical nature (for example, in a country town), or based on mutual interests (for example, a community of scholars). A community is designed to assist individuals in achieving goals in a more efficient and effective fashion than they otherwise could. Thus, communities provide for synergy (the results of the whole being greater than that coming from the component parts). It is recognised that communities require servicing. For example, a city requires water services, electricity, schools, libraries, and other cultural facilities. If a community does not have these facilities we speak of it as "primative". Primative communities may have some benefits. Some alternative lifestyle advocates have argued that many of the facilities of modern communities result in the isolation of people.

Isolation can be of various natures. It may be cause by a lack of monetary resources. In modern society people tend to be isolated if they are poor. Most of the services provided by modern societies cost money - for example, electricity, telephones, and clothing. If people do not have access to these facilities they tend to be isolated. For example, if people do not have a telephone in their home they cannot be rung up by their friends. If people cannot afford modern clothing they may feel that they are not part of "main stream" society. Electricity is necessary for

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lighting. If people are to have access to books and other information sources (for example, television) after work they need access to electricity.

Isolation may also be caused by a lack of knowledge. Education should help people to overcome isolation. It should give people options. For example, educated people should be aware of such things as:

- Their right to join political parties.
- Their right to meet with others.
- Their right to influence in their community.
- Appropriate ways in which they can have influence in their community.
- Community services which should be available. Ways in which community services can be developed if they do not exist.

Communities of scholars have many similarities with physical communities. Scholars can be isolated. This may be a result of being poor (for example, because they cannot afford journals, and do not have access to these in libraries). It may be a result of lack of knowledge. In a community of scholars it is increasingly important to have the same "paradigm" (view of reality) as others in the network. This means that there is usually a base level of knowledge one needs to participate meaningfully in the community. This knowledge is generally provided by undergraduate and graduate training. Knowledge about current activities in communities of scholars comes from information networks.

WHAT IS INFORMATION?

Information may be defined in many ways. It may be considered as organised data (data reflects reality in some sense). Information is designed to reduce uncertainty. Information is tranmitted. It is created and consumed.

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In communities of scholars information creators and consumers are often the same people. Scholars are often involved in transfering information to students (who are generally seen as purely consumers of information - at least until they are studying for an advanced degree). They consume information created by other scholars. They are considered to have a responsibility to create information. Generally they are judged more in terms of how well they create information (that is in terms of their research findings) than in terms of how well they transfer information (that is in terms of their teaching ability).

In physical communities (cities and the world) information providers tend to be powerful. They are often economically secure. Sometimes they are not people - they are often companies. Sometimes they are multinational companies. The multinational information providers are generally based in rich countries. There has been some questioning by a number of poor countries of whether information providers based in rich countries can provide appropriate information for the needs of their people.

In physical communities the information providers tend to be different from the information users. This is partly because it is difficult to establish information dissemination systems. Only a minority of people have the resources needed. Another problem is that few people have been brought up to think they have anything to transmit of value (remembering that students are not seen as information providers - they are trained to consume efficiently. They are taught to read books and write essays. Generally their essays are not related to their lives. If they are related to their lives they are generally only read by teachers. Rarely are students writings transmitted to people as "information").

Information tends to cost money. In particular, useful information costs money. The more useful information tends to be the more it tends to cost (useful is interpreted here to mean of economic value). Corporations spend large amounts of money in accumulating information on such things

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as:

- New marketing possibilities.
- New product possibilities.
- New ways to train employees.
- New ways to control employees.
- The ways in which their competitors are likely to act.
- Government policy.

After collecting information on the above corporations attempt to influence them. For example, if it is likely that government policy will not benefit a company it will attempt to ensure that the government policy is not implemented.

Information in physical communities is also expensive. Newspapers are not expensive but often are not customised to meet the needs of specific individuals. Television is also relatively inexpensive but the information transmitted is again of a generalised nature. If people want information which is specific for themselves they need to allocate resources to the task of collection. They will either need to spend:

- Time; or
- money.

For example, if they want information on the attitude of a political candidate to an area which they are interested in they will need to interview that candidate. If they want information on the direction in which their council hopes to take their city they will need to interview members of council. If they want information on possible new economic opportunities in their community they may need to approach the small business administration (in the state government) and perhaps their local chamber of commerce.

Working as individuals it is difficult to get "individual specific" information. Many individuals do not know about "individual specific" information sources. Others do not have time to approach these information sources. Another problem is that politicians may not be interested in dealing with individuals (particularly on sensitive issues).

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By working as groups and developing effective systems it is possible to overcome some of the above difficulties.

WHAT IS A SYSTEM.

Systems can be divided up into various component parts:

- Inputs.
- Process.
- Outputs.
- Environment.

For example, in a hydro-electric generation system inputs would include:

- Manpower.
- Water.
- Capital equipment.

Processing would involve the conversion of water energy into electric energy.

The outputs of the system would be water and electricity.

The environment would include such things as:

- The catchment area.
- Any towns in the area of the system.
- The rain producing system.

Information systems also have inputs, processes, outputs, and an environment. The outputs will generally be related to the objectives of the system. For example, a library may measure its output in terms of the number of books borrowed. A newspaper may measure its output in terms of the number of papers sold. It is important that the measure of output used be related to the objectives of the system. For example, it may be inappropriate to measure a libraries output in terms of books borrowed if its main goal was

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to provide a community meeting place.

Inputs to an information system may come in various forms. For example, a newspapers inputs would include press releases. Newspapers always receive far more press releases than they can publish. Thus, only some of the inputs to a newspaper are incorporated in the output (that is, in the newspaper). This compares with the situation with a learning exchange where all of the input is available for output. With a learning exchange whenever someone offers to assist others with learning his or her skills will be recorded. A linkage will be created if someone contacts the exchange needing the skills.

Processing of information can be done in a number of ways. It can be done manually - for example, in the learning exchange, information on people offering skills could be recorded on cards by a clerk. This tends to be fairly time consuming. Computers can help speed up the processing of information. Computers can sort information according to various keys (for example, location, name, learning area) extremely quickly. They can also assist with the editing process in the production of written information. Because they have memories, the whole text of an item needing to be edited only needs to be typed once.

The environment for an information system may be either positive or negative. Generally, the environment will be negative if the system is a threat to powerful influences in the broader society. For example, in South America many newspaper editors have been imprisoned because they are seen as a threat to the credibility of ruling military dictatorships. In Australia newspaper editors are rarely imprisoned. Australia being a democracy allows for freedom of speach. Libraries generally operate in a positive environment. This is particularly so if they take a "traditional" stance towards information (that is, they lend books to people). When they provide information to poor people on how to increase their power they create controversy. The role which libraries should play in society (and in particular, whether they should be change agents) is a question

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of increasing importance in democratic societies (particularly in the context of increasing pressure being placed on libraries to impliment a "user pays" principle for some of the newer information services they provide).

ALTERNATIVES

In the next section I will be considering a number of alternatives which could assist with overcoming the difficulties associated with traditional information dissemination media.

Newspapers and radio networks are not generally controlled by the community. It is difficult to gain access to them. Because of these limitations they are not generally useful in creating "grass roots" networks.

Increasingly new technologies will be used to facilitate with the development of community information systems which will allow for the development of "grass roots" networks.

VIEWDATA

One such technology is Viewdata. Already a viewdata system is operating in the United Kingdom. With viewdata hundreds of thousands of pages of immediately up-dateable information is stored in a computer. This computer is accessed via the telephone lines. People can access the computer from their home. They use their television to read the information on. To access the information they use a special key pad. The viewdata system is menu driven. This means that one works through categories of information.

For example, one might initially get ten categories of information on the screen, one of these being education (with a 3. before it). One would key in 3 on ones key pad. Next might come up:

1. Adult education programs
2. T.A.F.E.
3. Community Literacy
4. University programs

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If one wanted to offer oneself as a community literacy tutor one would then key in 3. Next would come up a menu of locations of programs. One would key in the number of the program nearest oneself. Next would come up specific information on that program. For example, the names and phone numbers of a number of community literacy workers in the program who would be happy to discuss the program, how many people currently involved in the program, the approach used in the program, and a contact co-ordinator number. More detailed information on the above aspects would be available by keying in more numbers.

Such a system would no doubt have great potential for making community information systems more accessable. Telecom continues to investigate this area (a number of countries have developed systems - all claiming theirs is best - including the U.K., Canada, and France).

I would imagine that such a system will be in operation in Australia by 1985. How it is used will depend on whether space is allocated for community information, and on the imaginative participation in the implimentation of the system by community information workers.

USING CURRENT NETWORKS BETTER

Some groups feel that there is real potential for community workers to liase with establishment media more efficiently. For example, there is a feeling that community programs would get better coverage in the media if they:

- Produced better press releases.
- Emphasised aspects of programs which are newsworthy.
- Had a better knowledge of the various media which can be used.

In Victoria a social research group has developed a book detailing information

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on the above and more. Groups interested in purchasing this book should write to:
AUSTRALIAN FRONTIER
422 BRUNSWICK STREET
FITZROY VICTORIA 3065
AUSTRALIA.

The information on specific media outlets deals with Victorian media, but the rest of the book is of general interest.

Another option is to put pressure on traditional media outlets to become more community oriented. In Victoria the Age has taken a leadership role in this area. It has developed a community information centre in the city of Melbourne. It also supported the 3rd International Community Education Conference (held in Melbourne in August 1979). It has also developed a supplement called "Weekender" which lists community activities being held each weekend. It is likely that the Age community information center will eventually be computerised.

People interested in more information on the work of the Age in the area of community information systems should write to:
Mr Ranald Macdonald
Managing Director
David Syme and Co Limited
250 Spencer Street
Melbourne Victoria 3000
AUSTRALIA.

Another possibility (which many groups are using) is to create alternative community information systems using currently available systems. For example, many groups are using the facilities of libraries to assist them in establishing networks in their local communities. If groups are developing ideas which may be of interest to others working in the same area either nationally or internationally it is a good idea to have

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written material they produce indexed in the appropriate data bases. Data bases record information and made it accessable under various keys (for example, institution which produce material, topic area in which material was produced, and author). If community groups throughout the world did this there would be far less duplication of effort (commonly termed "reinventing the wheel"). I have found that Data Bases are interested in such material. For example, the Australian Education Index is increasingly indexing material in the Youth and Technical and Further Education field (at least on the computer data base, if not in the published index). If this is done consistently for the next few years one would easily be able to enter:
YOUTH HOUSING into a computer in 1983 and get a complete list of projects which have been undertaken in this area (reports on the projects would be available from the originator of the project - whose address would be listed in the computer print out - or from the Australian Education Index).

For information on how to submit documents to the Australian Education Index write to:
Ms Margaret Findlay
Chief Librarian
Australian Council for Educational Research
P.O. Box 210
Hawthorn Victoria 3122
AUSTRALIA.

At the international level the appropriate index is E.R.I.C. This makes documents available on microfiche (thus a 400 page report can be purchased for less than $2). Hundreds of thousands of documents have been microfiched by E.R.I.C. and are available from at least one teacher education institution in most state capitals.

If your group has produced material which you feel would be of interest to an international audience (of people working in your field) you can send

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it to E.R.I.C. for consideration for indexing. There are a number of specific subject area clearinghouses (your librarian can generally get the addresses of these for you), but a document can be sent to the central clearinghouse and will be directed to the appropriate clearinghouse. The address of the central clearinghouse is:

E.R.I.C. Processing and Reference Facility
4833 Rugby Avenue
Bethesda, MD
U.S.A. 20014

ALTERNATIVE NETWORKS

Another perspective involves the development of alternative communication networks. This is reflected in the development of community radio stations and community newspapers. Often students have been involved in these, and they reflect the perspective that students can be involved in the transmission of useful information.

A leading force in the development of community newspapers has been the BRUSEC Group of schools in Melbourne. This group of schools has assisted students in producing a newspaper in a number of languages (titled ASCOLTA). The BRUSEC Group is also involved in the development of a community farm in Melbourne. This will give students the opportunity to experiment with an alternative lifestyle, to get some experience in the tourist industry (they will give tours around the farm), and give the students an opportunity to participate in research in the area of ecology. This reflects an assumption that students can be involved with the development of knowledge. People interested in more information on these projects should write to:

Mr Roger Holdsworth
12 Brooke Street
Northcote Victoria 3070
AUSTRALIA

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BIF

Another technique which could be used to create local networks in reasonably large cities is BIF (Brainstorming in Football stadiums). In many large cities football stadiums are the only venues which can hold more than 5,000 people. BIF involves the use of football stadiums for dialogue between people with similar interests. It is designed for one-to-one communication rather than one-to-many communication. Even where workshops are included in conferences, a one-to-many communication mode tends to dominate.

BIF involves the division of a football stadium up into discussion areas. For example, sections could include:

- How do you measure community attitudes?
- Will technological change increase unemployment?
- How can I use new technologies?
- How can I use radio for community education?
- How can I get publicity for my community education program?
- How can I get funding for my community education program?

Before the BIF exercise preliminary reading would be sent to participants. They would also be encouraged to think about the issues from a personnal point of view.

Resource people would be available at the football stadium, but the emphasis would be on going to the area in which ones area of interest was covered. In the area one would meet with others with similar interests and swap strategies (for example, on how to get publicity for a program) or perspectives(for example, on how technological change will impact on employment).

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Groups would naturally form as part of this process. They should be provided with technology (such as typewriters or word processors) so that they can produce group reports. These could be placed in meeting rooms which are part of most large football stadiums.

People who get bored with dialogue could play various games on the football oval.

Innovative ideas generated could occassionally be flashed onto the electronic score board.

I would see this technique being used for macro "search type" conferences on such themes as:

- The future of a city.
- The future of Australia.
- Developing a co-ordinated approach to educational policy in a state.
- Improving preventative health programs in an area.
- Linking and communication between age groups.

The results of such conference could be published on microfiche (extremely inexpensive).

BOM

BOM (Brainstorming On Microfiche) involves the use of microfiche as a medium for communication. Microfiche is extremely inexpensive to produce and distribute, and thus has been used extensively for information dissemination (for example, in the E.R.I.C. system). The BOM technique involves the use of microfiche for the development of international networks. People write to a central clearinghouse which arranges for their letters to be microfiched (microfiche bureaus are

located in each state capital) along with multiple indexes at the front of the fiche.

Each person in the network indexes his or her own letter according to the following sorts of keys:

- Topics discussed.
- Questions asked - of people.
- Questions asked - on topics.
- Questions answered - for people.
- Questions answered - on topics.

I developed this technique after becoming concerned at the expense of becoming involved in global computer conferences. I have an article on this technique being published in Educational Technology which gives a complete outline of how it could be applied by community groups. I would be happy to supply interested readers with reprints.

COMPUTER CONFERENCING

Computer conferencing will increasingly be a viable option for community groups to use in becoming involved in international networks. In a computer conference participants communicate via computer terminals. Messages are sent to a central computer which indexes them according to such things as:

- Author
- Topic discussed
- Questions asked
- Questions answered
- Embargo (date or topic).

Computer conferencing can be extremely fast paced. Instead of communicating with a group at the speed at which one can speak or listen one can communicate at the speed at which one can read.

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Increasingly as the cost of satellite time becomes less expensive community groups will be using computer conferencing as a substitute for travel (I will be considering the question of communications substitutability for travel in a paper I will be presenting in the Education section of the 51st ANZAAS Congress. Monday, May 11, 1981. 10.10 a.m. Forgan Smith Building, Room 45. University of Queensland. The paper is titled "The use of new technology in education - an energy saving option?").

Instead of attending an international conference on Community Education in Europe in 1983 it might be possible to carry it out (at least for those unable to afford to attend) via a computer conference, or via a BOM exercise.

By 1985 I would see computer conferencing being used regularly for international dialogue by community groups in Australia, along with the BOM technique. By 1990 computer conferencing should have become so inexpensive as to largely replace BOM as a method for global networking of community groups. Travel will still exist, particularly for pleasure, and for conflict resolution (interpreted in the broadest sense). Travel for information transmission will be largely redundant.

FURTHER QUESTIONS

Why should small community groups worry about national and international data bases?

Will new technologies make community information networks impersonal?

Will there still be a place for CARD BASED community information networks in an era when a microcomputer based community information network package can be purchased for $3,000.

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What will the role of volunteers be?

Are football stadiums a good place in which to create a network of 10,000 to 30,000 people?

Are large networks a viable possibility?

What is the role of school based community education officers in community information?
Some possibilities are for them to heighten teachers awareness of the possibility of students as:

- Creators of information.
- Transmitters of information.
- Change agents in the community.
- Network developers.
- Information collectors.
- Citizens of the globe.
- People who can "Think globally, act locally" (this was the theme of the first global conference on the future (Toronto, Canada. July, 1980) which has been taken up by the International Assocation for Community Education).
- Developers of possible, probable, and preferable scenarios ("pictures" of the future) in the area of community information systems up to the year 2020 (when many of them will still be in the "workforce").

How can librarians assist with the development of community information systems?

How should governments (International, National, State and Local) assist with the development of community information systems?

How could large multinational corporations assist with the development of small scale community information systems?

What are the implications for privacy of extremely sophisticated community information systems?

What are the negative aspects of community information systems?

Who should initiate the development of local community information networks?

What role should hospitals play in information networks in the health area?

What is the role of the police in community information systems?

Should all local community information networks be compatable with a global information network?

What will the role of people be in community information networks when computers hundreds of times as intelligent as the largest computer system currently available are available for community use?

Will community information systems assist in keeping Australia democratic?

Will community information networks facilitate participation in the government of:

- Local areas.
- States.
- The federation.
- The world.

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Who will be the elite in a society in which community information networks are accessable by everyone?

Is isolation reduced by community information networks?

How could community information systems be used to enrich the education of students?

Will a domestic satellite facilitate the development of community information systems?

Will community information systems reduce crime?

How will community information systems impact on leisure?

Do comprehensive community information systems (incorporating local, state, national, and global linkages) exist in Australia?